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Disquequest Lowers Win95 Forecast

Disquequest members have reduced their 1995 forecast for Microsoft Corp.'s Windows 95 from 15 to 5.6 million shipments, from 10 million to 26.4 million.

In a statement from San Jose, California, Disquequest says that of the estimated 26.4 million shipments of Windows 95 that Microsoft ships year, about 10 million will come in the distribution channel it put out.

"Disquequest," adds the statement, "Disquequest estimates that 10.4 million copies of Windows 95 will be in consumers' hands at the end of 1995. The original forecast placed 20 million copies of Microsoft's operating system in the hands of consumers."

Disquequest's analyst Paul Cuthbert said two factors for the lower forecast:

- "It is a significant factor that a product as one when it is not yet in the market and when the final shipment date had not yet been set."
- "And Disquequest is taking a more conservative view of the holiday season at this time."

Softbank to Reveal China's Net

Japan's Softbank Corp. is teaming with A. Tong Communications Co. Ltd. in the Chinese computer-based information services Internet service sector.

The French Agency Transo-Press International News Service reports from Tokyo that the Japanese software wholesaler is set to invest \$10 million in equipment for the new service and also in payment to the Chinese company.

Softbank says it is ahead of Unisys Systems Inc. also will participate in the long-term APN even Softbank recently said it will buy a 30 percent stake in Unisys.

Nintendo, Netscape Eye Venture

Nintendo Co. Ltd. is U.S. and is talking with Web browser publisher Netscape Communications Corp. about possibly developing Internet connections for the video game maker's Game Boy advanced gaming system.

Chairman Howard Lincoln of Nintendo U.S. said in a statement to the Reuters news service as saying an Internet deal involving the two companies could be announced by early 1996.

However, Lincoln called "unfounded" the rumors that such a deal already has been reached.

Nintendo Offers Net-Based Fax

A new communication device that enables a fax-equipped telephone to work as connected to the Internet has been developed by Japan's Nintendo Game Boy Industrial Co. Ltd.

Reporting from Tokyo, the Associated Press says, "By simply using push-buttons on a fax machine, or telephone, a user can quickly reach sites on the World Wide Web." A Nintendo spokesman said the system is being done using a PC in 1995 for Web.

AP says Nintendo will market the system for use by governments, for systems such as public information and disaster prevention information.

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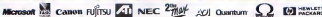
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Anti-Games Software Ships

OTD Software has just released OutGame 2.0 for Windows, the first Windows

version of a program that is designed to erase games from operating PCs.

OTD, based in Irvine, California, says the new release can eliminate up to 1,100 different games and can significantly improve the performance of PCs with at work.

The company notes that OutGame can detect and remove games under Windows 3.1, Windows NT, Windows NT, OS/2, DOS and all major network operating systems.

OutGame 2.0 for Windows 2.0 is priced at \$29.99 per file server. A shareware version of the software is available in Complete's Newell User Library, Version 100 (NULIB100) in the file OUTGAME20.ZIP.

Nonlinear Offers 64-Bit Unit

A US&S2000 non-linear 64-bit home video game expansion will go on sale in Japan next spring from video game maker Nonlinear

Cx Ltd., along with three new software titles designed specifically for the new unit.

Reporting from Tokyo: the French Agency France Press International News Service quotes Nonlinear as saying the product has "the top-end quality of expensive video" is impossible for "quasi-real-time" and "is able to display 'glorious translucent water' and 'realistic' objects and characters."

Its 64-bit central processor was made by California-based Silicon Graphics Inc.

As noted earlier, Nonlinear said last May it was delaying launch of the new game to overcome market blurring last year's continued strength against the dollar.

The Kyoto-based company said it planned to release the "Ultra-64" game in the United States and Europe around April next year.

The wife's earlier observation that when Nonlinear's 16-bit Super Family Computer made its debut in 1990, it created a boom in video-game machines. A total of 700,000 units had been sold worldwide by the end of March of which 20,000 units were sold in the U.S.

Technics to Build New Plant

A new \$40 million in new Japan to produce microprocessors and memory chips has been announced by Toshiba Corp.

In Tokyo, the Japanese electronics giant said it spent about \$1.27 billion over the last three years and began production at the new facility by March 1990.

According to the Associated Press, monthly production capacity will reach 10,000 wafers.

Fault Launch Windows 95 Probe

Word on the street is US Federal investigators are asking whether Microsoft Corp. intentionally set up digital individuals in its Windows 95 operating system to enable trial computer, Internet access programs.

According to the Wall Street Journal, the US Justice Department has issued subpoenas to CompuLink, Network Communications Corp., and Netcom On-Line Communications Service Inc.

The paper says federal investigators are focusing on whether Windows 95 and its related Internet software improperly disable rival programs that let users access the Internet's World Wide Web. As stated, a number of online companies, including CompuLink and Netcom, complained about the Windows 95 program when it made its debut in August, saying the software and its accompanying products called "Play" which prevents Internet users, essentially wiped out rival search software.

Microsoft executives testified the problem was caused by Windows 95 and its companion software, saying it has helped create the only major alternative their products and that any probe might result in its programs were vulnerable.

Michael Crone, Microsoft's group manager for personal systems, said the paper's analysis would not deliberately make Windows 95 more popular with retail products because such products would reduce the popularity of its products.



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Survey Shows Multi-PC House

A new survey says that the PC market is achieving solid growth, but increasingly many only use computers when they're buying a second or third machine.

The research by Link Research Inc. of New York also found PC sales growth in emerging areas in Europe and the Pacific Rim, also in the United States.

According to the Associated Press, Link's survey suggests the U.S. market is almost saturated, "mainly because America adopted computers far faster than much

other than other countries," the report says. "It also indicates most people update their machines every few years."

The research also finds:

- There is more than one computer in 35 percent of PC-owning households in the United States.
- About 35 to 40 percent of all U.S. households are expected to have a PC by the end of this year, with around 11 percent owning at least two.
- Worldwide PC sales in 1989 are expected to reach \$1.2 billion, including

1.48 billion in the United States, up from 10.2 million, 7.2 million in the United States, last year.

- In 1988, 34.8 million PCs are forecast in sales to consumers, with 11.1 million in the United States.
- Consumer groups for about 40 percent of all PC sales, followed by business, government and educational institutions.

Link analyst Andy Rose, who led the research, told the wire service: "PC manufacturers are going to have to depend on current PC households for much of future

growth. When you get to 35 to 40 percent penetration rates, it's going to be difficult to get any new first-time buyers."

AP says the survey found similar behavior in 12 other countries, particularly Australia, Singapore and Hong Kong, where PC sales also are in steady march of all households in Europe. PCs are now in about one-fourth of all households.

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For the Windows 95 environment, Sigma Electronics, manufacturer of the BYE-BEST-GOLOUR MONITOR — now offers the Infopix Series of monitors. This new generation of displays are plug and play and CDD 100 with a smaller circumferential footprint. Featuring on-screen display 30-bit technology, and superior image quality, the Infopix Series is available in all the popular CRT sizes including 10, 15, 17 and 21 inch.

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integrate networks and the Internet, was announced by Message Communications Corp. and Star Microsystems Inc.

The language is to be finalized first in the interim, as more the StarNet Server says could enable Starbase and StarNet to enhance performance of software applications for the Internet, where total bandwidth can be increasing heavily."

The two teams in a report from Microsoft's "Call" that Microsoft has made it expected to explore in place for future Internet products.

However, Microsoft and Sun say 70 companies have agreed to adopt Starbase as a standard and provide it as their products.

Mark Anderson, vice president of technology at Message, said the new service, "This Internet industry support the development will help rapid development of an entire new class of the online applications."

Analysis: Laura Comptroller of Professional Services said the support of Starbase "is definitely an effort to take business outside to Microsoft," adding, "From an effective point of view, money is being spent on finding their company and Microsoft needs to call will be quite successful, but there is no likely to do."

Intel To Provide Hot Banking

The publisher of this popular Quaker financial program is looking up to provide banking over the Internet, developing a connection to enable customers to do

remote transactions, such as pay bills, check account balances and transfer funds.

Officials with Maple Park, California-based Intel Corp. told the Associated Press the service will be available by the second half of next year.

The new service expects Intel is developing a general Internet connection with a commercial connection that will work with various hardware. "To ensure the banking transactions are safe from online threats," AP adds, "Intel is employing security software designed to help keep account information safe."

Right now Intel provides online banking through Quaker, but the new banking service apparently will be incorporated in the financial software, allowing customers to communicate with banks over an open, global network.

Teknic Offers Low-Cost Server

From Tokyo comes word Teknic Corp. has developed a low-cost multimillion server system that can distribute massive programs and data to 250 subscribers at the same time on an on-demand basis.

A Teknic spokesman told the Boston News Service the new system, called SmartServer, is the same system used in Japan for the processor computers at universities, so its price will be about one-fifth that of other commercial or commercial systems.

"Teknic plans to introduce the new server system to the market in the second half of 1996,"



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By David Anderson



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Here are two very interesting and very different programs from the Philips Media group. Both programs are both well timed with sounds and good animation. The artwork is beautifully crafted in both cases.

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Lamb Chop Loves Music is a series of games and learning activities designed to teach a child's knowledge of musical instruments, their names and their sounds. There is a talking-book type story based on The Moussois of Bremen. The scenes are alive with hot spots for clicking and watching your hand "wiggle and bounce." There is also an musical instrument store, where the user can browse amongst percussion, wind, brass and stringed instruments. The interface is cartoonish like Microsoft's Musical Instruments CD-ROM. You click on the notes, and you hear a play, as well as listen to Stan Lewis talk about some interesting features of the notes.

There is also a game room, where there is a variety of games based on recognition of instruments.



sounds. The skill level is well within the abilities of most early computer users. The program covers more than 50 instruments, and is sprinkled with dozens of classic children's songs.

It must be pointed out that Stan Lewis and his talking puppet Lamb Chop have a particularly chop-

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1995 in review

1995... Five years from now, we may look back at this one as the year when it all started to change

By Alan Huxman

The Year of Windows 95—in Windows

The year began by waiting for Windows 95. Whether you were a Microsoft fan or Microsoft-hater, all of the year was spent

on hold, waiting for what had initially been promised for late '94. Software product releases were delayed, software and hardware purchases were postponed, all in anticipation of the Win-95 debut. At New Year's time

was promised by April—then postponed again and August, finally spring with full economy in August 24th, along with a copy-right, early '95. Nothing. Some people—“Wait It Up.”

The multi-million-dollar marketing campaign, along with the several delays, made the debut almost an anti-climax, and the over 10 million copies sold (including pre-installation on new computers) seemed like a disappointment in light of early hype/predictions made by some well-publicized experts/predictions of 25 million to 75 million copies sold by year's end (and every year).

Windows 95 is a great product, a big improvement over DOS+Windows 3.1, but it isn't the next Play and Play product. Early reviews that some think Microsoft promised. Some of its features are a lot less complex or more intuitive (such as the file change + multi-cursor). Another all is real and some, it's just an operating system—not an editor, even a way of life.

Windows 95 (or 95 or 95+) will probably become the primary desktop operating system over the next five years. In these years will be one of a slow transition. Tons of millions of computers will continue to run older versions of the operating systems, just as an estimated 100 million computers run MS-DOS even today. For the next couple of years, smart software (software) developers will continue to make their products compatible with DOS and Win 3.1 while perhaps including features that will require Windows 95 for full use (as is the case with the new Adobe PageMaker 5.0).

One other emerging software trend that Windows 95 demonstrated was the extent to which CD-ROMs had penetrated the market. Microsoft was surprised by how many Win 95 purchasers chose CD over floppy versions, as some places there was a shortage of CD versions while the floppy packages lagged the shelves. I'd have guessed that the early adopters of Win 95 were likely to be the same people who'd added CD-ROMs onto their computers, but CDs have clearly become viable options for games and educational software, but also increasingly for large operating systems and business applications.

Even though it will be several years before Windows 95 fully reaches its potential, Microsoft's operating system competition will have few opportunities. IBM is withdrawing from the desktop operating system field—choosing instead to focus on OS/2 in the corporate market. Apple seems to have entered its decline to break the Mac's base through licensed clones, while their customers have remained loyal, but percentages of the growing market is slowly shrinking, outside of the education and graphics/publishing strengths.

At the high end, Microsoft's NT continued to slowly creep up on both Linux and Novell Netware: while both of these competitors continue to hold the largest share of their respective markets, neither seems able to demonstrate any features that are better. There's a new-found advantage to the natural way to launch a network server may prove short-lived.

There was little new and exciting in applications this past year—software developers seemed stuck—waiting for Windows 95, and unwilling to commit themselves to projects that might have to be changed depending on late-breaking news. (Developers perhaps, were remembering what happened in the late '80s when many developed for OS/2, only to

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be caught unprepared for the popularity of Windows 3.0. Even the first generation of Win 90 products seemed cautious—even from Microsoft, products like Office 90 offered only minor improvements over the previous generations, but no "must-have" applications have yet been unveiled.

Interest in innovation: most of the software news in 1990 was in the area of high-end, Mega-mega continued, highlighted by Intel's purchase of Lotus, but also with California's Systematic buying Canada's Delrina. And the opposite happened at year's end, with Novell backing out of its purchase of Word Perfect (now WordView), in consequence on its long-term licensing business.

Gizmos and Gadgets—at a Price

PC hardware developments offered a lot more in 1990 than you might imagine: hard drive prices, making 1GB more than 10% hard-drive the norm in new business systems. By summer, Pentium CPUs out-sold 486s, with the latter promising to be quickly displaced, at least from new desktop systems by early 1991. Intel's next generation Pentium-P6 (formerly the P6) will be a harder sell, however. Designed for a true 32-bit operating system, a previous essential performance improvement on hybrid 286/32-bit software featuring both Windows 3.1 and Win 90. As a result, competitors to Intel such as AMD and Cyrix have a head start to increase their

share of the CPU market in the next year.

A big disappointment this year, however, has been the Apple/Macintosh/IBM Power PC alliance. Apple has the successful Power Mac line, the alliance has been unable to bring a credible version of their CPU to market. If they cannot make a ready into the Windows/Apple market in 1990, the alliance may have missed their chance for broad acceptance.

RAM prices remained relatively high, however, and combined with 387 word for main-stay, drove up the average price of computer systems. While in 1989 and 1990, users could buy an average home system for under \$2000, systems now cost \$2500-3000. These provide more—a faster, more powerful CPU, a larger hard drive, more RAM and more I/O, CD-ROMs and sound built-in, but it does make it harder for some potential buyers to get into the market. With continued new-buys opening systems and applications, don't expect prices to drop any time soon.

Several hardware trends all featured increased performance and cost of supply—particularly for PC owners. Modems staying at the now standard 28.8 kbit/sec became increasingly affordable—and will likely continue to stand for the next several years. Higher speed VCR and telephone lines. Higher speed ISDN available alternatives will develop, but will take several years to become standard and acceptable.

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PC Cards...

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Alan Zimmerman

What is a PC card? By 16 bits and less, you do almost anything you want? If you answered "no," it means Express Card™ you're probably watching too much TV. But if you answered a PC Card is a portable computer, you're right on the money.

Portable computers are great—but up and down, they had a big disadvantage compared to their desktop counterparts. Desktop PCs are expandable, you see. You want to add a sound card? A network interface? A modem? A CD-ROM? No problem. At worst, you'll have to open the case, and pop an expansion card into an unused slot. (Well, actually, as worse, you've got a whole series of incompatibilities involving bus type—PCI, ISA, EISA, and DMA settings, but we'll leave that for the smart-alek article.)

Portables, you see, have no slots. And that has meant something (because limited slot no expansion). If you couldn't plug in more

the portable to expand parts, at the least, it was at a major compromise. It's a real tragedy, but for a desktop station or a port peripheral, but does anyone actually use one of those? And even if you did—what is good is that when your portable goes out of the office—and that's the whole idea of portables!

Take modems, for example. A modem can be a very useful tool to anyone involved with a portable computer—most just as far as from the office to home and back. Portable manufacturers used to be very happy to sell built-in modems for their machines—most priced 1400 bps modems, sold to a captive market, that is—with each computer model sending a different model number that was the obvious choice? Carry a bulky external modem? They are equally unappealing mini-modem? Looking any sort of standards for portable computers, even often simply did without.

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PROCESSOR

Most notebooks today (with the exception of some brand name products) are capable of using CPU's based in desktops. Most entry-level notebooks use custom CPU socket mounts or surface-mounted technology. Proprietary CPU's require special daughter boards that have limited availability and a higher cost. A surface-mounted CPU cannot be upgraded to comply with newer technology. Limited expandability and expensive proprietary modules have caused the perception of notebooks. An upgradeable CPU (PGA type socket) and removable CPU lets the user upgrade to newer processors as developed. CPU prices are consistently fluctuating up and down, but some CPU prices always (unless in short supply) drop significantly.

MEMORY

As notebook manufacturers strive for smaller and lighter volumes, space is limited. Standard RAM modules are bulky and require a lot of room, so as notebook manufacturers have to develop special memory boards that are less space. There are a small number of manufacturers of SIMM modules found in IBM

or IBM desktop systems. Standardizing memory has many advantages to both the user and the manufacturer as far as PCMCIA memory cards, but they lack speed, cost efficiency and memory accessibility (access time) and normal memory and not true DRAM. There is hope though, Hitachi has developed a standard 44-bit DRAM memory module for notebooks. The DRAM module al-

though new to the market, will have a significant impact on rate of notebooks as pricing drops and capacities increase.

HARD DISK DRIVE

Hard drive technology is moving towards more portable solutions, many manufacturers have moved production to the 2.5" form factor, closing the price gap

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- Sound Blaster 16 Bit & Speakers
- 16" Tower & CSA Power 200W
- 14" SVGA LVL SVGA Monitor 20mm
- 121 Enhanced Keyboard
- Mouse & Pad

OTHER FEATURES

Megabook introduces the Megabook 770 and the new Pentium Megabook 880

The Megabook 770 multimedia notebook was designed to run today's most demanding multimedia applications. Available in 15" & 17" TFT active matrix LCD screen, the Megabook 770 features a 16MB of local bus video and provides simultaneous video display on both the LCD and any external device. This notebook offers optional processing power with the Intel Celeron 100 microprocessor, ranging from 100MHz, 133MHz or 166MHz (removable hard drive) and expandability (from 4MB to 16MB).

Additional features include: 2 PCMCIA Type II slots or 1 PCMCIA Type III slot & PCMCIA Type III slot, a ColorMaster II pen, internal mouse, battery, an internal Keyboard or PS/2 mouse(s) and when fully loaded weighs only 4.4 lbs.

Megabook has got everything the Pentium Megabook 880. Offering all of the same great features as the Megabook 770, the 880 model has been enhanced with the latest technology. The Megabook 880 features an Intel Pentium 75 90 or 100MHz microprocessor, 4MB of RAM (expandable to 40MB) an internal pen, Microsoft Windows 95 w/ 32MB removable hard drive (expandable to 1GB), and available in a 15" or 17" w/ TFT LCD display.

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PDA'S INTERVIEW

Epson's ActionNote notebook



Epson's ActionNote 190 series of notebooks is based on the 2.1-volt, clock-tripled Intel i860 integrated notebook CPU. It has 100 MB of RAM, a processor and disk are the i860, i860C, i860C2, and i860C3. The i860C3 features dual screen displays, the i860C2 and i860C3 feature built-in camera (1.3 MP). All have removable 240000 BDR.

In ActionNote 195C and ActionNote 197C, the multimedia-capable with built-in 14-in. SuperVGA compatible screen, audio card, external mod and speaker. There is an integrated 14-in. SuperVGA screen.

The multi-media functions are options on the other models.

All ActionNote 190 series notebooks have ActionNote integrated pointing device, Windows 95 compatible, IBM RAM (expandable to 240 MB) and standard PC Card slot. Software bundle includes a version of MS-DOS, MS-Windows or Windows 95. Also included are Lotus SmartSuite trial subscription to the Official Action Guide, FlightPack for Windows, Prologix, CompuShare, America Online, NetCom, NetCrunch, AOL, NetOpus, PC and servers and utilities and on-line documentation. Systems with built-in fax modems include WinFax Lite and WinFax Pro.

Options include enhanced ActionNote Business Kit, Keyboard Security Cable with an expandable 11-pin BNC. One year Road Service warranty which is a rapid response program for overnight replacement of the notebook should there be an unsatisfactory problem. Prices for the 190 series start at \$2,149.

Contact: Epson 800-288-2774

JefBook CD3(FI)

Phillip Boyd is introducing the JefBook CD3, a 5MBPS multimedia notebook that features CD-ROM, 16-bit sound and an optional built-in modem for CD-ROM. The JefBook CD3 is designed to allow the user to use the CD-ROM. Boyd and his company intend to sell the new CD3000 notebook and support the Pentium 333MHz processor. Available in a three-year limited warranty, and prices range from \$2,149 to \$2,499.

For more information, contact Phillip Boyd at (800) 238-4317.

adapters to convert a Type II into a Type III, since the only difference is the thickness of the slot and not the connector.

PCMCIA technology allows users add-on devices available for desktops, so its used in notebooks. As technology advances, PCMCIA cards in the future will be able to incorporate many

functions on one card, as well as having hot swap capability which allows the user to change cards in the middle of an application. Not all PCMCIA cards are the same, compatibility, memory requirements, and installation are considerably different from desktop systems. Contact your reseller for specifications.

SUMMARY

Notebooks are a viable and in many ways a better solution for users at home and in business. Since most readers know less about the industry, they tend to neglect notebooks or give them little

Continued on page 38

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COVER STORY

Toshiba sets new performance standard in multi-media notebook

Toshiba claims that the Terec 200CT is the most powerful multimedia ready notebook. It features a 120-MB to 160-MB processor which

accelerates 2-D video, 31.5-P diagonal 800 x 600 color active matrix display with 480 color/monochrome colors via the e-Color 4 Technology 30000 PCT based graphics extending standard VGA low, standard PCI expansion bus architecture for support of 32-MB PCI-Cards through the new Data Streamer V docking station.

The Terec 200CT has 16MB of high-speed synchronous DRAM (expandable to 48MB), weighs 7.5 lbs., measures 11.18 (g 80), Asynchronous pointing device, two stacked 14-in PC Card slots that accept 2 Type II or 1 Type III cards and a long life 600mAh, low battery with an estimated 5 hours of operational

time. Options are for CD-ROM reader which can be swapped out for floppy drive, 2 stereo speakers and integrated 16-bit audio that supports 8kHz 16-bit and 44kHz 16-bit stereo files.

Windows 3.1 compatible. Also advantage RAM that is faster than 8000 DRAM and eliminates the need for microprocessors and power-hungry Level 2 caches.

The optional Data Streamer V's standard PCI expansion bus supports 16-bit PCI and 32-bit ISA as well as Plug and Play and simplified card configuration. Available in 300MHz (quad), 3.27" built-height bay and 2 Type III PC Cards.

SAP in 20.5MB (Data Streamer V SAP is 10000 3 year parts and labor warranty).

For more information, call 800-355-1111, Toshiba or 800-355-1111.

Toshiba midline notebook offerings

Toshiba's line of Portastar 90 notebooks fits out in mid line offerings. The Satellite Pro 410 Series of multimedia ready notebooks featuring Portastar 9000A processors feature 11.7" diagonal 800 x 600 color displays with advanced video controller module to CD-ROM, external 16-bit reader, 700MB PCI, RAM of 8000 8-bit and battery use memory. The Satellite Pro is available in two models with optional displays and CD-ROM configurations. The Satellite Pro 410CT has a 11.7" diagonal dual-screen color STN/CCD display and an internal floppy drive module, while the Satellite Pro 410CTT focuses on 11.7" diagonal TFT active matrix color display and both the dual-speed CD-ROM and floppy drive module with an internal case. The 410CTT can display 256 colors internally the 410CTT is 48.144 colors. Stable capabilities include 16-bit sound with 9000/16000 and Sound Blaster compatibility, built-in fax and speaker, fax-photos/printer port, microphone and bus in ports and pre-installed word software.

An integrated AC adapter and CD-ROM (optional on the 410CT) cut travel weight and bulkiness, reducing the Satellite Pro 410CTT weight 7.5 lbs with CD-ROM module and battery and 410CTT is 7.8 lbs with floppy and battery. The notebook features Asynchronous pointing device and 2 stacked PC Card slots (accepting 2 Type II or 1 Type III PC Cards). Built in internal communications.

An optional Enhanced Port Expander allows docking to other peripherals.

The 410CTT with standard memory, built-in floppy is \$4,199 (SAP) Optional CD-ROM to 31.5" SAP. The 410CTT including microphone floppy and CD-ROM drive is priced at \$5,299 SAP (three year warranty on parts and labor).

Toshiba sets prices on eight of its notebooks including the Portastar 410CT, Satellite Pro series and midline series. Call range from \$300 to \$1000.

For more information, contact Toshiba at 800-355-1111.

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Continued from page 34

though. Service is the most important element, but info-oriented and knowledge are paramount, do not be fooled into thinking that only broad access are the best solution, most broad access can't do their own service and any person are usually empty ones. Before making any decisions, find a company who spe-

cializes in notebook solutions. Unfortunately most companies tend to do everything and the age old saying "a jack-of-all-trades and a master of none" is more true than ever. □

About the author: Michael Whigfield works with *Perfex Payroll* a notebook distributor. He can be reached by phone 604-279-4737 or 604-338-8112.

TABLETTER

Sceptre High speed Notebook

The new Sceptre Series 4000 model featured, high speed notebook with the Pentium P54C90-M 100/120MHz processor and 11.2" active matrix screen with 600 x 600 resolution, battery removable

to CD-ROM which can be swapped with floppy or battery. I/O is compatible with expansion to 3 gig. 72-pin DIMM support from 8MB to 40MB. Keyboard has Windows "N" keys and a touchpad with palm rest. Sound takes care of the sound, battery has 4.5 hours of use time. Docking station can be hot swaped and has PCI slots, 2 serial ports, SCSI and PS/2 connector.

SRP is US\$4,999 with 3 year warranty.

For more information contact Sceptre or IBM, 360 Jolly or in Canada at 416-411-7778.



Smartbook Compact

Perfex Payroll has introduced the Smartbook Compact computer. Featuring a 10.2" color TFT/LCD color 640x480 using standard DIMM memory modules, a removable hard drive and local bus notes in a 4.8 pound package. The DIMM module was developed in 1994 by Intel and designed specifically for notebook computer. The 4.8 pound Smartbook Compact is 486VL-class system that includes a PENTIA type 3.0 or 3.3 mhz, integrated floppy, front-mounted filter shielded and 3.5mm bays. An ergonomic design includes wrist rest and regular view. 18mm keys.

For more information, contact Perfex Payroll at (604) 538-8222.



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(Continued from page 29)

OCK Controls

OCK 32 let controls and OLE automation into play and play programming to a new level of simplicity and functionality. It is very easy to place a small Ockit spreadsheet as a Visual Basic form thus providing a little spreadsheet in your applications.

By using a tabbed dialog box OCK you could see the spreadsheet as one of the tabbed forms a user could select.

Freeware Calendar OCK's are among the first wave of third-party

OCK's but when the standard-oriented Delphi for Windows 95 hits the shelves new and improved OCK's will be everywhere providing grids, spreadsheets, charts, Internet access, communications tools, word manipulations, as well as the imagination.

These play and play modules should work equally well used in Visual Basic, Delphi, Access, Visual FoxPro or Lotus Approach.

Online Resources

If you have a modem and a connection to the Internet there is a wealth of help and information available.

There are a series of Ockit groups in the comp.lang.basic.visual.Microsoft.c1.b.vbasic and c1.b.vbasic.vb databases are two of the most popular.

Making lists are another source of online information and a good place to ask questions. VISBAS-L and VISBAT-L are especially helpful. You

can subscribe to these lists by sending email without a subject line to listserv@pcworld.com with one line in the body of your email type "subscribe VISBAS-L" or "subscribe VISBAT-L" or a similar line to VISBAT-L. Once mail starts arriving you may decide to rename your manager package as a single file. To do this, send a message to the listers above with the message "no VISDATA-L digest".

On the Worldwide Web there are dozens of interesting sites with Visual Basic help, tips and tricks, VB 3.0, OCK's, example source code, full length articles and some of our favorites are Carl & Gary's VB Home Page at <http://www.garyc.com/vb/home.htm>.

Gary Ross's Visual Basic World at <http://www.madfox.com/visualbasic/visual.htm>.

Visual Basic Outlines at <http://www.visualbasicinfo.org>.

Visual Basic Programmer's Journal at <http://www.world.com/>.

Microsoft at <http://www.microsoft.com/visual>.

Hardware/Software Requirements

Visual Basic 4.0 requires a computer system capable of running Windows 95. Specifically you need a 486/25 or higher processor with at least of



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12 MB of memory. You must be running the Windows 95 or the Windows NT operating system and have 20 MB to 80 MB of free disk space. Installation requires a CD-ROM drive.

Next Steps

Unless there is a late-breaking development between now and next issue we will take a look at the database companion to Visual Basic 4.0 the company-based Access for Windows 95 CD.

About the author: **John Warron** is a consultant and database application developer at **Executive Development Ltd**, Commercial Delta, Vancouver B.C. FAX 329 Tel 323-8539 email John.Warron@Mindspring.com

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Custom software development - A marriage of convenience?

By Gary Davis

"Any intelligent person who reads the marriage contract and then goes into it, divorces all the consequences!" *Indiana Jones* (1976-1997) *U.S. Doctor My Life*, rd. 19 (1987).

Whether we like it or not, custom software development is a marriage. It's a relationship that can be a happy and productive one for both parties—and not just a marriage of convenience.

Business people often look at a contract as a necessary evil—a legalistic ploy to be relied on as the event of a dispute. The contracting, and often painful, length of modern contracts has not helped to change this view.

A carefully thought-out contract can provide the structure for the entire project—and contribute to improving the quality of the finished product. How? By addressing, at one place, the business, design, and legal issues of the project. In other words, by clearly recording: (1) the desired outcome; (2) the promises made to get there; (3) how completion of the promises will be measured; and (4) how the inevitable breakdowns will be fixed.

Starting with mutual responsibility, client and developer alike want a product that has been efficiently created with regard to quality, time and cost.

It never hurts to do a little investigation about the developer and his reputation and experience. If you are hiring the developer because of specific representations made to you, or assumptions that you

have made, you might consider whether any of those assumptions belong in the gutter.

When hiring a developer, it is all too tempting to let them, as the "expert", take the responsibility for defining both the needs and the solution. (I often look at her second marriage who doesn't have a word in order to see what she is getting, the client also has a major responsibility in this part of the process. The more clearly you have thought out and articulated your needs, the more likely they are to be satisfied.)

Assuming that the developer has checked in, the foundation of the contract should be the developer's proposal to you and how the proposal is monitored into detailed specifications during the project. This can be one of your best opportunities to ensure that your needs are met.

All of this begs the question of whether you should build a custom solution or just modify an existing application. Experts differ on the answer to this but it is a question worth asking before committing.

"And how can I evaluate if I am getting a well thought out and designed product?" you might ask. In the absence of industry standards, you might want to have an independent software engineer review the developer's development plan and design. There are also tools available to the developer such as ProDev, developed by the Software Productivity Center, a non-

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profit industry drive organizations located in Vancouver, B.C. ProDoc is a documentation tool designed to help manage the pre-development phases of the development process. ProDoc can also be very helpful in situations where it is important that the quality of the software meets such international standards as ISO 9001.

You will want to provide for an evaluation and approval process, not just for the finished product but for each part of the development process. A well thought-out agreement will also provide for quality assurance through testing to agreed standards. It is becoming more common to tie progress payments to quality assurance instead of simply the production of work product.

Good documentation can also be critical in proving a claim for Scientific Research and Experimental Development tax credits. Currently, software development is generally considered to qualify for this tax incentive, with certain exceptions. Advice from an experienced tax professional at the beginning of the project can increase the chances that your project will qualify.

Ownership of property rights is more often left to chance than in discussion and agreement. For example, did you know that joint independent contractors will own the copyright in your work product in the absence of an agreement to the contrary. Some rules are obvious and can result in unintended results, and you are well advised to get professional advice to ensure that you get what you bargained for.

Additionally, you will want to ensure that the developer is able to document your rights, and ensure you that no one else has a competing claim. This is an opportunity to check the developer's internal procedures, and whether the appropriate legal agreements are in place with employees of and contractors to the developer.

Ownership issues can also be important if your product includes content that belongs to others—pictures, images, sound, and other copyrighted material. Obtaining the required clearances can be time consuming and expensive. While this concern more commonly arises when creating multi-media products, it deserves a place on your check list.

To understand the developer's perspective, he will normally prefer to license rather than transfer copyright to the client. This is often because the custom software is a hidden portion of software previously built for others—modules which the developer considers part of his library and intends to use in future projects.

Ownership goals might be better understood and expressed in reference to creative license to competitors. The outright ownership of the software is just one way to protect the client. Your goals may vary depending on whether the project is in developing software for internal use or for resale; the former being much more common.

A common way of resolving this is to negotiate an agreement with the developer restricting him from developing a competitive product during an agreed per-

iod of time. These negotiations can often be difficult, because the developer commonly does not include a price in the quotation which takes into account the restrictions on his ability to conduct business. You may end up paying more for your product, or as a minimum, having to make some hard decisions about the extent you will go any and extend competition.

Often overlooked is the need for ongoing maintenance and upgrading of the software. You will likely need some form of

access to the developer's documentation and the source code in order to do this.

And one last hint. During the course of development, you will receive or modify certain details about your business which are confidential. Some of this information will be important enough to you that your competitor's position could be substantially affected if the information is disclosed. A properly crafted non-disclosure agreement will complete your project documentation.

All of which will increase the likelihood that your software will be created on time, within budget and in accordance with your specifications. □

About the author: Gary Dene practices intellectual law in Vancouver, B.C., specializing in intellectual property, trademarks and licensing. He can be reached at 604-279-7017 or at gary@den.com.

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Three Cards

Let Laptops Stay Connected - Anywhere

By Alan Zisman

Portable computer users still need desktop power and speed. No where is this more apparent than in the need to stay connected. On the road, in and out of the office, at home? Need a high-speed modem to connect to the Internet, to BBSes, or to access data and even programs on the business network?

And back in the office, would the laptop be plug into the network would be a plus?

At the same time, you have to deal with the limited size and weight restrictions of portable computing, where extra connectors and ports count. An added problem is the limited expandability of portables. These three PC Cards (formerly known as PCMCIA Cards) provide an answer to the dilemma, usable by any portable user with an empty Type 2 PC Card slot.

GVG 14.400 bps

Concord, Ontario's Gasek makes a full range of affordable modems, including a 14.4 PC Card modem. (They also make a

variable PC Card Ethernet adapter for those not working modems.) It works well and is available at an attractive price, but is somewhat hindered by the optional documentation—a 13 page mini-manual.

The F-114PVI model ships with a proprietary phone line cable, and a copy of Delta's 4-in-1 telecommunications software, comprising: The versions of Coml telecommunications software for DOS and Windows, and WinFax and DOSFax. Of course, it can also be used with the telecommunications and fax software of your choice, after some fiddling with configuration settings.

In addition, a PCMCIA driver disk is included, although the modem requires that Socket Card Services are already installed on your portable. With

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does 95 correctly answer progress this card as a "Circus Logic" modem, and will automatically install drivers for it. As with other cards in this review, the GVG model flexes that interconnect—meaning it can be inserted or removed without having to power the computer down. Because PC Cards can easily draw portable batteries, it features a low power sleep mode, when inserted but not in active use.

The modem performs well, supporting all the standard 14.4-level modem specifications—V17bis, V42bis, and so forth, and operates at a Group 1B fax, for sending and receiving. It can be configured to work on any of the four standard COM ports, and supports the standard Hayes AT commands. It includes a five year warranty, which can be extended to a lifetime warranty with the purchase of GVG's DataGuard communications line protection.

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It represents good value in a medium package.

Maghearts 144 K Jack Ethernet Modem

This offering from Maghearts is a step up in features, packaging, and price. Both GVNC's card. It's just one of a series of PC Card modems and networking adapters from Maghearts, now owned by US Robotics.

Unlike GVNC's card, which requires a proprietary phone cable (one it's your own risk), the new one from Maghearts models feature a trademarked XMod adapter—a thin phone jack that fits into the body of the PC Card when not in use. Simply press on the end, and the XMod pops out. That means you can plug any standard phone jack into this card. Some fear that it may be easy to break off, however, a change that Maghearts denies. At the same time, use of an XMod and phone cord may make it impossible to use some second PC Cards at the same time.

While the unit includes the XMod for its phone connections, a proprietary adapter is used for the networking side of the card—depending on the adapter, either 10BaseT or 10Base2 cables can be used with this card. (Maghearts's

2115 US) Ethernet adapter comes with a similar XMod for 10BaseT plug use).

Features 3.0 for Windows software is included, along with CompuServe and America-On-Line connection software. But no general purpose telecom software is included in the package.

DCB users get a token ring of the head—a card in return for free DOS communications and fax software. However, the DCB-based install program adds appropriate drivers for both the modem and networking functions.

Windows 95 recognizes the card and install its drivers for all its functions.

This device also permits simultaneous access of a network, along with 14.4 fax modems. It also features a built-in Digital Line Guard, an attempt to protect the modem from being plugged into office digital PBX high-voltage phone lines. If you do, you'll be notified of potential problems, and the modem will be switched off-line—hopefully before any damage to the modem has occurred. (Digital phone lines are unlikely to harm traditional modems, but the higher voltage has the potential to make any PC-Card modem go up in smoke—beware!)

Another handy feature—Maghearts's software includes a point emulator. This can reduce (DCB) memory utilization by writing up the card, and then removing itself from memory. The down side of this is that doing so limits the ability to measure and reinsert the card, or to switch in and out of power-saving sleep mode. Windows 95 users avoid these problems, getting drivers that load (as much more available extended memory.

This unit includes a full-colored 870 page manual, complete with all the modems, people that make this area of computing so much fun. Like the GVC card, it includes a 3 year warranty.

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REVIEW

The Dotsell program will set up your machine with its own version of Card and Modem Service drivers if you do not have any specifically installed. This well-designed program will set up your machine to, by default, connect to a Novell network, and the simultaneous network and modem operation. As the Dotsell program can be run to undo the installation.

The documentation aids in the sometimes complicated configuration of the modem for your network software—especially necessary when no telecom software is included with this package. It lists a number of different modems that can be chosen (if your software has modem file models), and also includes sample installation scripts for a wide range of popular software. In addition, it gives detailed instructions for working with the modem and the (Type II) list, and for setting up the network driver with a range of popular networking packages. Additional information on manually configuring the networking and modem functions will appear in the computer do-it-yourselfer.

I wish PCMCIA meant the card's basic software can be updated as newer versions become available. Megabeat's use of the well-regarded AT&T Chip set in its modem.

Megabeat is one of the most widely distributed brands of PC Card modems—users who do not need the modem's combination of networking and simultaneous-on-line should have no trouble finding their 14.4 and 28.8 kbps modem-only cards at their favorite retailers.

Jack of Diamonds is a hard card to play...

Like the Megabeat card, the oddly-named Jack of Diamonds TrumpCard, from Guelph, Ontario's Oxtel, is also a come-to-card, crisscrossing Ethernet networking and a fax modem into a single. This PC Card. Unlike the Megabeat product, this card boasts 28.8 kbps although speed modem may. It also features cellular support, making it particularly attractive for mobile users. On the other hand, with a 38C1 (CDD) bus, it's also the most expensive card of the trio. (There is a special 38C1 CDD version prior in effect, for use with per customer use, until the end of next March.)

Like the Megabeat card, it permits simultaneous network and modem connections. Unlike the card, it does not use (Megabeat's patented)

Block connector—including special cables for both the telephone and network jacks. A 100MHz cable is included on Media Access Module allowing both (Dotted) and (Dotted) network connections, can be ordered (gaping the price by another 100).

The included software allows one access to several popular cell-phone modems at speeds up to 14.4 (which is pretty good, considering the availability of cell connections in general), and includes a fax feature—if it notices whether or not the network adapter is in use. If not, it prevents data that rate of the card, preventing double savings on network taxes.

The company claims compatibility with DOS, the entire Windows family (including 3.11, 95, and NT), OS/2 and several varieties of UNIX (though not the popular Linux). As with the other cards in this review, I used it with Windows 95, which again successfully recognized both the network and modem functions, and automatically installed the appropriate software.

Unlike the Megabeat card, the TrumpCard does not include its own generic PC Card and Socket Services software—a claim stated to be compatible with the CS&S software installed with virtually all PC Card systems. Like Megabeat's software, an optional postcardular always seems to have about 10% of DOS memory, at the expense of losing too wrapping (Quick) to Windows file and browser software is included. There are separate manuals for installation, and for the modem and networking sides of the card.

While Windows 95 happily recognized the card's modem function, and set it up to work seamlessly with the environment's native telecom and Internet software, it was more difficult to find appropriate instructions using information to work with any other (DOS and Windows) software—eventually located a Windows file with several installation strings—found several documents in the driver disk. Even with this information, I never quite got my software set up to my satisfaction, and found modem performance slower than I would have hoped from a 28.8 kbps modem—perhaps my own fault, but I would have hoped that this vital information would be more clearly communicated.

It's the price of the cards reviewed, but Oxtel's offering is clearly the feature-leader of the bunch. ☐

About the author: Alan Jones is a teacher and an assistant editor of *Computer Player*. He can be reached by e-mail alan_jones@computer-player.com



HANDSON

Desktop Publishing Tips:

Corel Ventura 5.0

By Sweet-Run Inc.

This month, we'll look at the different ways you can create drop caps in Corel Ventura.

The first method uses Ventura's approximate drop cap feature. Select Corel Ventura. With the Tagged Text tool, click on a paragraph you want to format with a drop cap and add a new tag for the style.

With the cursor in the paragraph, click the right mouse button and select **Format, Character**. Select a font (Verdana) and size (14 points) for the paragraph.

Click the Apply Effect drop-down list and select

DropCap. Choose the drop cap font (Verdana) and enter 14 points for the font. Ventura creates an initial letter in the specified size and indents the appropriate number of lines for that size. Click **OK** to view your drop cap.

To create a second cap, use the Tagged Text tool to click in the paragraph. Click right and select **Format, Character**. Click **Drop Cap Character** in the dialog box. Click Custom Spacing. Enter 1 line, Enter 14 points for the Shift Up amount. Click **OK**.

With the text cursor in the paragraph, click right and select **Format, Spacing**. Enter a Paragraph Left Indent of 1 line and a First Line Indent of 1 point. This creates no-centered paragraph for the drop cap.

The next method uses an in-line graphic.

Draw a frame and load a decorative letter from the clip art files (clipartletters on the CorelDraw CD). Use the Push tool to select the frame. Click **Format, General**. Click in the Frame Anchor box. Enter a name for this frame. Click **OK**.

Type the rest of the paragraph. Drag the frame to the start of the paragraph and adjust the text. Use the Text tool to position the frame to the first letter. Click right.

Click **Insert, Special Items** and select **Frame Anchor**. The frame anchor name should display for Frame Position, click. An Anchor for an in-line graphic. The frame will be inserted at the baseline of the line and will act as a text character. Click **OK**.

In the example, each paragraph was tagged differently and indicated by strings one below the other.

About the author: Sweet-Run Inc. is a freelance graphic artist and desktop publisher who provides training and consultation in CorelDRAW®, Corel PHOTO-PAINT®, Corel VENTURA®, Microsoft Graphical User Interface and WordPerfect. If you are using CorelDRAW®, Corel PHOTO-PAINT®, CorelDRAW®, or Corel VENTURA, call for information about purchasing How-To books and a collection of desktop publishing tips. Telephone: 254-2940.

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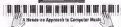
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Responsible Internet use

By John Bivitt

It is part of a rather unique generation.

First, those of us between the ages of 20-35 lack a CNN-created label. We're too old to fit into "Generation X," (which apparently means we do have direction, vision, and sense of purpose and purpose), but we're too young to be called Yuppies; too young to have taken advantage of the roaring economy and materialism; 1980's. But of more significance is the fact that the evolution of my childhood and my countless peers make the end of an era that has lasted over thirty-five years.

You see, we are the last to be raised solely in television.

university planning that we have only just begun to feel the impact and penetration of this phenomenon, we saw us find ourselves in the beginning of yet another era, with an undefined number of questions for the experiment and uncharted skills. One of the most crucial issues arising through such transitions, video games and the Internet, however, involve the importance of **personal involvement and responsibility** in these technologies versus our homes.

This is not a new concern. Here, there were quite a variety of violent and sexual options a short 15-20 years ago (Steve Wills has nothing on Dirty Harry or Charles Bronson). Also, the graphic nature of arcade video games has been the subject of debate for the past 4-5 years, as they moved from involving a little yellow ball rolling down and then within a maze with the associated gunfire chase, to bullets rippling out the vital organs of their defeated opponent and violently rising, then slowing his head. Nice stuff.

It is undeniable, however, that the general and indiscriminate accessibility of violent and sexually explicit material today is much higher, with an eye of a cleaver. Film, TV and radio consumption statistics mention more sex and violence, and it doesn't appear that our - and today's kids' - tolerance threshold is stopping it's steady rise. Therefore, if parents are willing to allow their TV, movies, video games - and the Internet - into their homes, the responsibility of awareness of the content, and active involvement in its selection, is 100% theirs.

Unlike television, however, the Internet presents an additional challenge: offering unregulated Hollywoodism, and not one governmental body currently reviews what information passes through a free one point to another around the world. This keeps the producers of free speech and expression quite happy, but creates a free ride as well. Simply stated, all of the information on the Internet is appreciated by, or suitable for, all Internet participants. Beyond the pornography and pedophile issues, hyped by a questionable research paper widely publicized last spring, there is information available on many other topics such as safe sex, gun laws and abortion, good educational information, perhaps, but not necessarily what you want when you're a year old reading

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Enter the Internet

Though technology was moving quickly through those years, I don't think anyone could have predicted the total wave of the Internet, despite the fact it had been slowly making offshore for over twenty years. With every technical

What's Out There?

There are 3 main ways users can communicate and/or get access to Internet information: beyond reading and receiving electronic mail ("e-mail").

World Wide Web Likely the most popular vehicle for Internet exploration, this is the world's largest multidatabase library and yellow pages. One can search for information on any topic and bring that information right into your front office accompanied by applicable visuals and/or a sound track. The best news for parents: The WWW also provides a simple way of publishing creative material and photographs that any website can put together. Beyond sex, topics encountered include drug use, promotion, material in film groups, and amateur exploitative websites. Getting access to the "adult site" often has a map for a direct link to dozens of other sites, also. Further, your software used for looking at other Web sites requires no alterations to look at any of the audio, pictures, video, as they follow the same graphics standards as Web sites at advertising agencies.

Newsgroups Motivated for making the sharing of characters "all out" tedious, newsgroups allow written opinions, essays, discussions and file sharing (or "posting") on an ongoing basis with people from all over the world who share similar interests. There are currently over 13,000 Newsgroups out there - and growing, organized by categories and sub-categories. The bad news for parents: A very small percentage of these Newsgroups involve blunt and explicit discussions on sex... of all types and variations (as often pictures of children, always "breakfast"). Some of these most controversial Newsgroups contain sexual (though easily de-coded) photographs that are often borderline illegal (under local laws around the world) for the authors to post as is already decoded and formatted photo on the WWW (adult). Let's be known: First special requests here, indeed.

Chat Rooms Though it might sound like a step backward for communication, this involves a group of Internet users taking part in "live" conversations, sort of like the party telephone line except one doesn't speak for all in hear; one type for all to see. They can be quite good fun for all ages. The bad news for parents: Like any conversation where you aren't present, kids will say the darndest things - and quite a few that would get your systems raised - too! There have been one or two incidents of pedophile activity as the US where participants (recall the majority of the party telephone line concept) were asked information about chatting

addresses, getting together, etc., but this should not be blown out of proportion (recall Internet users tend in the line of mischief).

What Can Be Done?

Most Internet users are usually protective of the non-regulated status of the Internet. So aside from the near impossibility of lobbying local government officials to legislate the control of world wide data and information flow, there is social opposition to such a move. The example of the Internet is, "If you don't like it, don't look!" So I wouldn't suggest waiting for such a thing to happen.

Assuming one has the money for a home PC, simply considering the Internet and refusing to let it into your home is not the answer. This would deprive your household of the most exciting and intriguing playgrounds and education tools in the world - for you as well as your children! There are steps you can take, however.

1. Clearly, being aware of the risks for they involve - this article may well be outdated within a year! - is essential. (Demand which business responses also contain elements which threaten the value system you would like expressed upon your children.

This is the most important responsibility we have as adults. Period. The rest follows in order of importance.

2. Get decent PC software. There are several PC based software packages that help filter the types of information that come in from (and go out to) the Internet. My personal choice is Cyber Patrol. It screens Newsgroups based on titles and WWW sites based on a database continuously updated by users worldwide, and forbids certain text streams from coming from or going to your PC in Chat Rooms. It has some other clever features such as icons of access allowed, and different levels of password control, but it's a case of an not intuitive layout is what first caught my attention.

3. Value shop for Internet services. If you are frustrated by your Internet experience, you will hardly be in a position to want to wrestle with the parental responsibilities. Note that the Internet is likely just typed and sold as a cheap form of entertainment - I view this as unfair to the consumer. Doing so is like selling a new looking car, only it has no brakes, no glass in the windows, and hold time. Pay for decent access (avoid the all-you-can-eat speech), and be prepared to buy software. The purchased software is almost always easier to use, better supported and has more features/alternatives. Also, if you are not paying a lot for access, don't expect great telephone support. Many ISP's are

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AGFA
The complete picture

Frame Relay and T1 Lines

By Sean Elvington

Over the last few years, Frame Relay technology has become the transmission medium of choice for corporations replacing expensive dedicated leased lines. Unlike leased lines, which are private, point-to-point connections, Frame Relay sends your data through a public data network.

Data sent through the network is packaged in "frames" and "routed" from switch to switch within the network. Just as infrequent telephone calls are routed through a public switched phone system, if you use a Frame Relay network your data packets share the switches and trunk lines with other people's data.

The idea of public networks devoted solely to data is not new—in the 1970s the telephone companies introduced the X.25 standard as a way of sharing public data networks. The main issue in those days was whether or not it was reliable as they are today, so the X.25 standard included a lot of overhead for error checking and correction. This was done at each switch as the data packet traveled through the network. The protocol required a lot of extra information sent with each packet to ensure that it arrived at its destination intact.

Frame Relay takes advantage of modern telephone lines' low error rates

and leaves error detection to the computers at either end of the link, which usually receive the data. If a packet is corrupted in transit, the applications running on your computer will detect it and request that the sending computer re-send the packet. This means that Frame Relay does not need the elaborate error checking mechanisms of the old X.25 networks and is able to handle much more data more quickly.

The public Frame Relay network is often referred to as a "cloud" and is usually shown as a cloud-like shape in network diagrams. In order to access the cloud from your office you will need to buy a dedicated connection to the nearest point-of-presence (POP) provided by your phone company (24-hour USPS, which is a local loop service provided only by BC Tel, the market for Frame Relay services is highly competitive with Telecom, Sprint Canada, Global, World and BC Tel all providing service). This dedicated line is usually a 56,000 bps line, although you can get faster access lines if you need them.

Frame Relay is very scalable and therefore very cost effective. You buy a Committed Information Rate (CIR) from the telephone company which is the amount of data that your carrier guarantees will always be able to get through the network. Even though you might have a 56 Kbps line into the cloud, you might only need an average throughput of 16 Kbps through the cloud so you pay only for the amount of bandwidth you actually use.

The Frame Relay cloud is not terribly busy in Canada so you can "burst" up to 56 Kbps and still take a chance that your data will get through. When a Frame Relay packet enters the network there is a bit called the discard eligibility (DE) bit which is switched on or off. If the cloud is temporarily busy, any packets you send in excess of your CIR are marked DE and are discarded by the network. This doesn't happen very often (although it might as the cloud becomes busier over the next few years) but if it does then you will have to retransmit your data.

If you want to connect your LAN to a Frame Relay network you will need a

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router. Virtually every router on the market provides integrated Frame Relay software support, however, there are some important differences among them. You might want to look for a router which supports *Forward Explicit Congestion Notification (FECN)* and *Backward Explicit Congestion Notification (BECN)*. FECN and BECN are packets sent by the cloud to your router telling it that the cloud is congested. Your router should also detect the rate at which it is pumping data into the cloud, and if it doesn't, then it will attempt to pump out data which may be remarked to be discarded.

A router can also prioritize your traffic by allowing some packets to have precedence over others. This can be very handy when you have many users competing for bandwidth. Database lookups which directly affect customer service, for example, can be given a higher priority than file transfers or email.

When choosing a Frame Relay router you should also look for an easy-to-configure interface, a fast file data processor and a multipoint path to ATM (asynchronous transfer mode). Unfortunately, if Frame Relay varies on one depending on the protocol being used, ATM frames are the same size regardless of the protocol. And as standardized containers make dropping more efficient, standardized data packets can travel through the network more quickly. ATM fields a lot of promise and you will want to have a multipoint path from Frame Relay to ATM as it becomes available.

If you just need to connect terminals or PCs to a Frame Relay network you can use a *Frame Relay Access Device (FRAD)* rather than a router. These units cost about \$1000 and up depending on how many ports you require. FRADs are very useful when dealing with unworkable protocols like SPX, because if you are a router, those protocols must be encapsulated in another suitable protocol like TCP/IP which significantly increases the size of the packet.

Recently, several vendors have come to market with "router over frame" units which allow you to use your data network, not just any voice traffic. A company with an under-used Frame Relay network can save a lot of money if the spare bandwidth is used to send packets of voice data. The savings can be huge for companies with international networks and lots of overseas telephone lines. Because voice traffic is a time sensitive (ie, we can't have large gaps in the middle of a sentence), a router over frame and even have a fairly large buffer and fast processor to avoid delays or jitter in the transmission. Look for more of these type of products to hit the market soon.

One different note: people sometimes see ISDN advertising a T1 connection to the Internet and wonder what it means. A T1 line is 24 lines combined into one physical phone line capable of

transmitting data at 1.544 Million bits per second (Mbps). The T1 connection to the Internet means that your ISP gets his Internet feed at 1.544 Mbps. Your ISP may also be bringing in net's calls via a T1 line either that having several individual phone lines.

By the way, a T3 line is 64 lines combined into one physical phone line capable of transmitting data at 4.512 Mbps.

A T1 line is 483 lines combined into one physical phone line capable of transmitting data at 44.734 Mbps. T1 lines are quite inexpensive and common in the United States. In BC it costs more to get a T1 line than it does to get 24 ordinary phone lines so there is not much incentive to do so.

Note: Cable Modem/ISDN of C.T.A.S. emailed me that the GDSI variables I

wrote about last week will support ISDN in 1997 and the existing switches to plain throughout BC will be upgradeable. This is good news because it may allow BC Tel to roll out ISDN more quickly around the province. ☺

About the author: *Brian Zingales* is Marketing Manager of JED Data Systems. He can be reached by email (bjed@bc.ca) or voice (604) 473-6337.

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Kids playing in traffic on the Information Superhighway?

— *Let Net Nanny keep an eye on them*

By Alan Humes

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The child's eyes were wide open, with a combination of horror and excitement, watching the glowing screen... you may have seen that cover of Time Magazine, early in the summer, a part of the media bonanza, back from its saccharine exaggerated hype of the Internet, with an equally one-dimensional attack on so-called cyberspace.

Time, for example, based its June 20th cover story on what is described as "an intensive" study on the pervasiveness of online pornography, by Martin Rimm, originally published in the Georgetown Law Review. Among other claims, Time quoted that in "Usenet groups where digitized images are stored, 83.5 percent of the pictures are pornography."

Response to the cover story was immediate, and crucial of its methodology and results. "Take the statistic about Usenet groups. For example, Usenet groups, on the Internet, are online public discussion groups... covering over 4,000 different topics from highly technical, to pop culture, to business, to lyrics, sexuality.

Rimm checked 17 of the 4,000 groups over a seven day period— 17 groups that all had a sexual focus, and not surprisingly, found the majority of content in those groups was sexually oriented— and even here, while Usenet groups can include graphics, they are sent as an encoded text, and can't even be viewed without tedious decoding and special software— not typically among the computer skills of even the passionate netizen pictured on Time's cover. Based in the first year of both Rimm's study and the Time article was member statistics, suggesting that only 0.1% of Internet traffic could be considered pornography.

The harm, however, has been done—the public impression of the Internet as a den of pornography will be hard to shake. (Rimmers with Internet access restricted in a detailed critique of Rimm's study and the Time article can check <http://www2000.sage.sdsu.edu/alt/>.)

And like many personal battles, there is a case of reality— if you look

for cyberspace on the Internet, you're going to find a Playboy's World Web site is among the most popular single destinations on the Web. Or go to a general interest site like "Downsides Anywhere," which seems to be sort of like an online mall. You'll find a wide range of businesses located there, such as the Icelandic National Tourism Agency. But check the list of the ten most visited locations there—the work I checked, seven of the ten were sexually oriented.

It's not surprising. Sex has sold other new technologies—the first generation of video rental stores, for example, were almost all geared into a rental market. And even with the broadening of the Internet's user population, a large percentage remains University undergraduate students (presumably male), with few women through their academic experience.

Parents, businesses and schools have a legitimate desire to limit access to sex on the Net. And so there has been increasing interest in a technological fix to the problem created by the unconditional technology of the Net. One of the most well thought-out has been created by Vancouver's Hot Nanny Ltd. (formerly True Nanny Corporation). They have produced the \$49.95 Net Nanny which gives parents (or teachers)

and even employers) the power to limit access to any content deemed inappropriate. When this software is installed onto a computer (currently DOS or Windows only), it continually monitors the computer for content that has been added to its dictionary—this could be sexual or drug or even violent or violence-oriented. If, for example, the word "boots" had been listed in the administrator's dictionary, any documents accessed, or any requests for access that include this word will be monitored. At that point, the computer can be set to simply record the access, or lock the keyboard, or even to shut down. If denied, the shut down computer cannot be rebooted without using a password entered by adult controlling the Hot Nanny software. This tool is very powerful—and can do more than simply prevent a child from accessing certain sites.

Many parents, for example, are uneasy about their children giving out their phone number or address while on-line. Adding these to Hot Nanny's dictionary will make it impossible for your child to share this information with cyberstrangers.

The Net Nanny folks are including sample dictionaries with their software and are promising to make updates free available for downloading. This is important, because adults can include the Web addresses or Usenet group names that they want their kids to avoid, simply by adding them to the dictionary, getting a ready-made list from True Nanny based on the Net looking for the places where you don't want your kids to go.

There are lots of benefits from letting children explore the on-line community—but like any community, physical or virtual, cyberspace has its bad neighborhoods. Net Nanny allows a parent to set some limits, while allowing their child the freedom to wander when they choose within those limits. □

About the author: **Alan Zimmerman** is a writer and an associate editor of *Computer Player*. He can be reached at e-mail at alan_zimmerman@computer-player.com

Product Information

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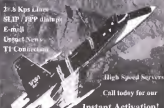
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Scopex monitors are supported by the new PCI bus and VESA/LVDS and therefore able to operate at peak performance. The VGA card is able to continuously support both the LCD monitor and an external CRT monitor with a resolution of 1280 x 1024. Channel rates for the TTT is 150 k and 30 k for the dual scan. Brightness and contrast are digitally controlled. SMP inputs at 1.02V, 495. The panels are aimed at high end vertical markets.

For more information, contact Scopex at (904) 366-8688 or Laptop Marketing in Canada at (800) 244-7768



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For more information contact Scopex at (904) 366-8688 or (800) 477-4363 and (800) 244-7768 in Canada.



Fujitsu releases Windows 95 keyboard

The Fujitsu PERKITS 104-key membrane keyboard with 3 new keys for the Windows 95 OS. The new keys are located adjacent to the left and right of the spacebar. An application key, identifying a menu item, function like the right mouse button in apps that make use of it. A left and right Windows key, which have a Windows logo icon on them, activate the Windows 95 Task Manager and services.



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Next year on the Internet

By Ken Charles and Gary Kneel

The first question everyone who knows me asks me these days, is how many people are on the Internet and how fast is it growing. The only non-scientific measurement used to determine the size of the Internet is the number of "hosts" or computer connected to the Internet. Although this is not a measurement of the number of people who use the Internet, it does give a good representation of the number and growth of Internet users.

A computer connected to the Internet is referred to as a "host." This system of approximation was apparent in the early 1980s but as the number grew, it became apparent that with thousands of hosts, the net would need some sort of distributed name database. Allowing my own computer to be one to locate any other computer over the entire globe seemed like a no-brainer (the Domain Name System or DNS). To this day, the DNS is the glue of the Internet that allows users to refer to hosts by names such as www.digital.com, instead of referring to IP addresses such as 193.504.101.1.

The growth of the Internet has been dramatic over the last 10 years from about 10,000 in 1981 to over 1,000,000 in the early part of 1991. The momentum for the rest of 1991 was twenty to forty million. The next ten years will see even greater growth. By early 1997 there estimates have the number of Internet users at over 400 million people. Some people believe this just after the turn of the century computer will replace the TV in the home.

There are many types of Internet users, government, military, commercial and educational. By far the largest group in the early days of Internet usage were military and educational. As of late 1991 the "top-level domains" were: com commercial representing 34% of domain names and edu-education having 29% of domain names. By January 1997 the percentage of domains held by commercial will grow to over 50%. This is a good reflection of the new direction that the Internet has been taking and will be taking in the years to come. The focus of the growth in the Internet over the next five years will be almost exclusively commercial.

The good news for all Canadians is that Canada is well represented on the Internet. Canada is indeed only America as a per capita basis the Internet usage. Canada is the fourth largest holder of top domain names of Japan, the ranks fifth among countries. Only the United States, Great Britain and Germany have more hosts. Canada is leading extremely good growth at 40% per year. While the United States only has 20% growth Japan, which was twice to grow its Internet, has 10% growth. And even that is slow growth compared to the Chinese that has 600% growth and Argentina had over 1,000% last year and is expected to have over 2,000% this year.

The information superhighway, as ever used to be going to revolutionize the way we do everything. From business relationships to entertainment, everything is going to change. As the computer class spreads over the early 80% of the Internet. There are many factors that will determine the rate and quality of

change. The speed at which one can receive data over telecommunications networks, as well as the cost to the consumer. As the market matures you will see a dramatic decrease in costs. The trend is away from high monthly charges to lower

monthly charges. Over the next year, companies will be looking for ways to keep your subscription. They will be doing this through many different mechanisms. Another shift will be in the service they will provide. It will be more effective of the general public.

Next year will see the onset of large companies into the Internet. This last month we saw Rogers Cable and Bell Canada. Over the course of next year every communications company will be joining the race. This will be in the response of the smaller Internet provider.

The Internet is just starting to grow up and will only grow. Stay in the coming year you will be better if not responsible for smaller Internet providers to cut up stage. Next year, every large communications company in the country will be fighting for a share of the cyberworld. Only those companies with both knowledge, capital and patience will succeed in tomorrow's market.

About the authors: Ken Charles and Gary Kneel work with Digital Asia Canada a Internet provider. They can be reached at (904) 343-6511.

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Last Chance to Reduce 1995 Income Taxes

By Richard E. Acres

It's December and 1995 is drawing to a close. If you wish to reduce your 1995 taxes, you must take the appropriate actions before December 31st. Although I believe that tax planning should take place early in the year, a final review before year-end often results in additional savings.

Self-Employed

I have written at length in prior columns about the new rules for professionals and self-employed taxpayers. Normally, business owners are trying to do what they can prior to year-end to defer their revenue and accelerate expenditures to minimize taxes. Those affected by the new rules and moving to a December year-end need to be making their pre-year-end decisions now.

For many taxpayers there will be a twist. They will be in income (revenue and deduction) expenditures in order to average their net period income over the next ten years. Initially your expense may barely exceed what it costs to increase this year's tax cost. If you are organized so the first that any income is income in the next period (the business's future year-end in December 31st) will qualify for the revenue and the income will be brought in over the next ten years. Consequently, you may pay slightly more tax in the current year but less in 1996 and bringing that income in spreading and over ten years allows for deferral of tax.

Revenue Canada is undoubtedly aware that those affected will be trying to do this. It is likely they will be looking for deferrals created by artificial transactions. Hence you should be trying to enter into beneficial transactions before December 31st and will withhold caution. This may include such steps as selling or deferring expenditures that you might have normally made in December. To be sure you are on side, you should consult and review these possibilities with your Chartered Accountant before the end of December.

Province of Residence on December 31st

Your province of residence on December 31st is the one in which you will be taxed for the entire year's income. If you are in the process of moving to a lower tax province, (for example Alberta) and that move is going to take place in January, you may wish to wait until you can do so sufficiently late to qualify for the tax purposes then by December 31st.

Donations

Last month's column was about donations and this is a reminder that to be deductible in 1995, the donation must be made on or before December 31st and the receipt should so indicate.

lower an rate will be gone. Consequently forward averaging must be completed in 1995 or 1996. If you are not on the top tax bracket for 1995, look at your forward averaging accounts and bring in as full extent amount to take advantage of the lower tax bracket. Also look at what you can do to structure your efforts in 1996 to use up the remainder of the account.

Capital losses

For the majority of investors capital losses have not been as much for survival years as the goal for most people was to use up those capital gains exemption. However, the year capital gains are fully taxable. If you have capital gains you should be reviewing your portfolio for any stocks you may wish to unload and take the loss, thus reducing your taxable gain for the year. To effect these capital losses, the transaction must take place on or before December 31st and that will be the last transaction date for 1995.

If you did actually pay capital gains tax in a prior year, you may wish to have a loss carryback which can be claimed for up to three years. However, before doing this you should consult with your Chartered Accountant to ensure you aren't carrying into a prior capital gains exemption.

In instances of the marital property rules. If you, your spouse, or a corporation you control purchases an identical property within 30 days, the loss will be disallowed for tax purposes.

RRSP's

In 1995, the contribution limit is to be the lesser of \$14,500 or the amount arrived at according to the formula applied to 1995 earned income.

The great contribution limit has dropped from \$14,000 to \$13,000. If you are

in excess of the limit on contributions made prior to the February budget day you will not be penalized. However, any contributions after that date which bring you maximum of the \$13,000 over contribution limit will create a problem.

If you turned age 70 during 1995, you must convert your RRSP to an annuity within a RRIF by December 31st. If you do not deal with this by December 31st the contents of your RRSP issued in your hands in 1996.

Tax Shelters

My first mention tax shelters is always CAUTION. Assume the shelter for actual investment value and consider any tax savings to be a bonus. Tax shelters are as lucrative as the government is attempting to make a high risk investment more attractive in pursuit of some government economic or social policy.

If you invest in something that is going to provide a tax saving of fifty cents for every dollar invested, remember that if you never see any of your money again, you would have been better off to have forgone the tax saving and receive the full that was available to you after tax.

In assessing a tax shelter you should also look at your total tax position to see what the effect of the Alternative Minimum Tax will be. You can over-shelter yourself and end up paying AMT. If you are looking at shelter consult your Chartered Accountant.

Wouldn't it be with you many Christmas and a happy and prosperous 1996?

About the author Richard E. Acres, F.C.A., is a multi-state Chartered Accountant. He can be reached at (800) 334-0777 or Jan (604) 734-0751.

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Forward Averaging

The ability to forward average has been gone for some years. However, there are taxpayers who have forward averaged with income still sitting in their forward averaging accounts. With 1995, the ability to bring in the forward averaged amount in a

Barter Cascadia

By John Madson

Last Spring the Portland-based ITEX Corporation completed an agreement with British Columbia ITEX/Bartercard to integrate the Canadian company into the larger ITEX Corp. system within one year. In spite of the instability of names ITEX Corp (U.S.A.) and ITEX/Bartercard (Canada) never had a business relationship.

ITEX Corp in North America's largest barter network growing well beyond its traditional 14 year ago, ITEX Corp now has over 150 offices in the United States and affiliated operations in Quebec, South Africa, Australia and Switzerland. It has lowered overheads over the past five

years developing a global trading system based on the Internet. ITEX Corp is publicly traded on the Nasdaq stock market under the symbol "ITEX"

Founded in 1980, ITEX/Bartercard in Canada's oldest trade exchange. Company founder and President, John Madson, realized it would cost thousands of thousands of dollars to update ITEX/Bartercard's accounting and trading software to the current technological capabilities of ITEX Corp. The while ITEX Corp associates its development costs over more than 30,000 members, Madson's much smaller operation would have to amortize costs over a membership of less than 300 ITEX/Bartercard owners John and Fran

Madson felt the time had arrived to accept ITEX Corp's offer!

In addition to achieving economies of scale, the integration provides ITEX/Bartercard members with access to global electronic trading and a truly expanded market. After much consultation, ITEX VP Marketing & Sales Michael Brail, recommended Madson and Madson look up with the very successful Seattle ITEX office. Doing the best better option is truly service what is commonly termed Cascade.

Heading up the Cascade region is Seattle's Fran Arnesen. He is committed to building a strong and vibrant office in Vancouver as he built in Seattle. Contact your local ITEX office.

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The Ultimate Windows Shell

Kiddesk, the family edition for Windows

By David Anderson

Here is a terrific piece of software for Windows computers in the home. It takes an ordinary IBM and turns it into the ultimate family machine, complete with central communications network with e-mail and voice mail built-in. It is a simple and effective replacement for Windows' Program Manager, with perfectly seamless, one-click launching of windows or DOS programs, with no fussy user-gif files or boot disks. I am describing the program called Kiddesk, The Family Edition for Windows, by Edmark Corporation, the people who produce Thinking Things among other children's educational programs.

Kiddesk creates individual "desks" for the users of a particular machine. Each desk can be customized by the user, and provides one-click access to the programs enabled for that particular

user. A supervising adult has a special key combination and password that prevents her or him to regulate the programs available to each user. Each user has a password, required to gain access to a desk. Desks also have a variety of appearances, selected by the user, and the user also chooses an identifying icon for the main desk. The main desk contains all the icons for all the users of that machine. While this system of individual desks is easily designed for a family, I observe Kiddesk in daily operation in my children's after-school daycare, where there are up to 30 users of the center's truly multi-user 486. Each child and staff member has a desk, a password,

and access to the games and programs available in each desk. Staff members use their desks to access the word processor, or financial spreadsheets. These programs are easily disabled on the children's desks.

There are two exceptional features in Kiddesk. One is the rock-solid simplicity of the program in a Windows shell. Not only are the program icons consistently one-click, but Kiddesk waves effortlessly through DOS or Windows programs with virtually no discernible difference. When a program is set up for a desk, a simple check box is provided to indicate if the program is to load as a DOS program. As an often-frustrated Windows

user, I have enormous respect for the programmers of Kiddesk. They have hidden from view all the struggling over sound cards and resources that can occur under Windows 3.1.

The other fascinating aspect of Kiddesk is the consistency of communications: e-mail and voice mail interfaces simple enough for children to operate. Each desk comes equipped with a variety of communications tools. There is a note slip-maker, with fonts and alignment and fancy borders. There is an e-mail mailbox for sending and receiving messages, with a very friendly word processor. There is also a feature printing distributed mail, using the File Manager trick of clicking on the first name, pressing SHIFT, and clicking on the last name. (Ask mail at a library?)

When a desk is entered, the mailbox indicates the presence of messages waiting for reading, printing, or deleting. Each desk also contains a telephone and an answering machine. If there are incoming voice messages waiting, the light on the answering machine is blinking. Voice messages are made with a microphone plugged into the sound card. My favorite is a distributed voice message whenever I close the call box, making sure everyone knows I did my bit. My daughter sends me mysterious songs and chants, and I send her Coast Guard messages. My son collects all his thoughts, and refuses to delete any of them. Just like a real live electronic bulletin board, mail is placed on a hard drive and is available to the user in sign-in. And just like a lib, you store your mail for later reference. It is simple, it is elegant, and it works! Write off to these people at Edmark.



Some technical notes: Kiddesk can be loaded as an icon in a Program Manager group. It will also load itself on to the Run-line in WinTr, if asked to do so. Or it will write itself in the Shell-line in System ax, and become the actual startup shell. Each has its advantages. If direct access to Windows without Kiddesk running is desirable, then the first two options are best. In the second case, Program Manager is loaded first, then Kiddesk loads. To get back to Windows, just quit Kiddesk. The downside to this is the update in the third option. When returning to Windows after a DOS program, you have to wait for Program Manager to reload, then the desk reappears. If Kiddesk replaces Program Manager, then movement between DOS and Windows is quick and smooth, with no waiting. The price paid here is the fact that if you want to use Windows utilities like the Control Panel or File Manager, you have Kiddesk running in the background, which can cause some unexpected delays. However, with Kiddesk as the shell, you can put the Control Panel or File Manager

right on your desk, so that you can go directly to those programs with one click. In some ways, a better Windows than Windows!

I am currently using the 3.5 version of Kiddesk on the family IBM SX 25 with only 4 mb of RAM. It runs very well, with no

complaints. I have not seen the 3.2-bit Windows 95 version as the first, but I can certainly applaud the craftsmanship that went into the 3.5 version. The setup is dead easy and simple in mostly one time. As for Kiddesk, takes very little resources, giving your computer all of its energy to run the programs on the desks. For a family machine of any proportions, this is a must-have, and less than \$9 dollars. Baaa, are you listening? ☺

About the author: David Anderson is a Tennessee elementary teacher, parent of two children. He can be reached by email: computer_player@midnet.net

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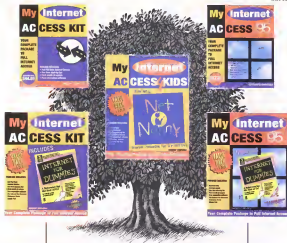
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